

KEEPING PACE

A Monthly Newsletter Devoted to the Art of Darkroom Photography

Volume 41 November 1990

Super Saturated Color light source

A few weeks ago I had the pleasure of seeing some new Cibachrome prints produced by a northern California photographer and color printer, **Joseph Holmes**.

Joe has been a regular contributor to the Sierra Club calendar division. His images have captured the beauty of the world in a large format 4x5 system.

I first met Joe when he called on me when I was operating the Dye Transfer division of Frog Prince Labs in San Francisco. He purposely came to see me and to show me his efforts in producing Dye Transfer prints.

I gave him some information about his masking techniques and his work improved dramatically. His Dye transfer prints are great.

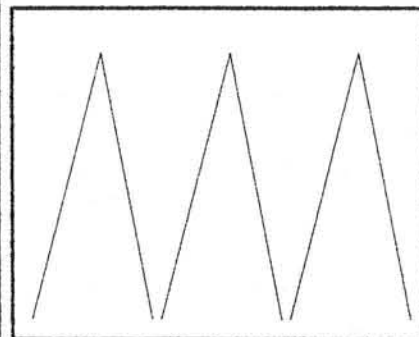
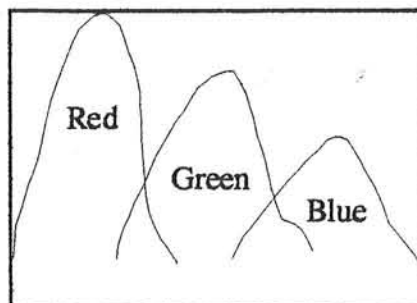
However, he soon was

bitten by the Cibachrome bug.

He was so determined to make great prints in Cibachrome, that he began to investigate the possibility of using filters that were much sharper cutting than the conventional Red 29, Green 61, and the Blue 47B.

His aim was to use the **tri-color method of exposing**.

After some months of searching, he did find a scientific lab that could produce filters for him. These filters are extremely sharp cutting. In fact, there is no overlapping of any of the colors.



Then he turned his attention to the invention and manufacturing of a special light head to house these new filters.

He wanted to use a system similar to the new Minolta pulsed xenon color head. He designed and built a method of producing a head that could be used as a white light, with the ability to adjust the color output of each filter by using a system similar to a dichroic light chamber. He could also expose each color independently of the others.

Well, after 3 and 1/2 years he succeeded.

His light source is so crisp and sharp cutting that it almost defies the imagination.

You could hold up a transparency against a regular incandescent light source and be very pleased with the look and quality of it. Then when you held the same transparency up against Joe's light source, the colors became much more intensified. The whites and blacks still stayed neutral and proper, but green leaves, blue skies, and red roses became so intensified that they almost looked unreal.

This kind of light source to be used for color printing would probably not work well with a conventional commercial transparency, but the abstract color intensification makes it ideal for interpreting a colorful scenic.

A well known California based company called "The Nature Company" printed a new book of Joe's work. It is outstanding. I visited the companies San Francisco's book signing and met with Joe.

He then invited me and my entourage to see his exhibit of over 30 prints in the Nature Company store on Berkely, Ca.

The prints were sensational. True, the colors were much more exaggerated than they would be in real life, but they were just great.

Then we were invited to his home in Berkely to see his darkroom and finishing area.

He has a 4x5 Durst enlarger mounted on an 8x10 chassis. The lenses are top notch Rodagons and all of his printing equipment is aligned with the "Zig Align" system.

He uses a very thin vacuum easel. It holds a sheet of 16x20 paper in place so that a borderless print could be made.

The timer is a complicated electronic box that Joe built that has hundreds of soldering joints and works more like a computer than a timer. With this proprietary gadget, Joe is able to adjust his color balance, and the exposure to the nth degree.

We were all impressed.

His lab is immaculate. He uses the automatic Jobo processor and has enough 16x20 tubes available so that he can process one print right after the other with little lost time and with very accurate timing and one shot chemistry.

He also mounts his own prints and has the finest equipment available for cutting his own mats. His is a complete finisher.

If you get the chance to visit the Nature Company book store, keep your eyes peeled for Joe's color prints and especially his book.

In Joe's book acknowledgment page, he has added my name to the list of people that have helped him in his career. I am really touched.

Tri-color printing is not new.

In 1951, in New York City, my lab, Pace Color, was involved in making the new C prints.

Being involved with the making of separation negatives led me to conclude that making prints via the tri-color exposure approach was the right thing to do.

I wanted to make the prints using a tri-color approach rather than the use of cc filters.

I made test prints using the normal set of sharp cutting separation filters.

I designed, and had Condit Mfg. build a little device for me. It consisted of a spring loaded wheel with 4 circular openings in it. I placed the three separation filters in the filter wheel leaving one hole open for sizing and viewing. The wheel was mounted just below the enlargers lens position. By using a push button switch and a battery operated solenoid, I was able to expose each filter, one at a time, with a very accurate timer. The results were the best in the business, at that time. By using a separate exposure for each filter I was able to achieve a more accurate

and colorful print than most of the labs in N.Y.

I remember the time when Kodak sent two representatives to visit me in order to determine what kind of method I was using. They were pleasantly surprised, but not reassuring. They felt that most labs would not bother with this approach because it was easier to use the new Omega color heads with two lamps and two sets of continuous filters.

I was so impressed with the method that I was using that I decided to call on Andy Azon, then the head of Aristo Grid Lamp Co., and asked him to build a light head for me based on my drawings. This was years ahead of the now famous Minolta color head.

I had the Aristo Company build a light head with three sets of colored neon tubes.

The tubes were placed with the red lamp across the 10x12 grid, the green lamp was placed in the opposite direction and weaved throughout the red lamp. The blue lamp was placed at an angle so that the weaving of this lamp made the entire light source look like a basket weave. Each lamp could be engaged alone or in sequence with the others. The power of each lamp was individually controlled by large rheostats. The idea was great, but we fell short of our goal.

At this particular time in

history, we had yet to invent the kind of easel meter that was required. We couldn't determine the accurate amount of filtration strength needed for each tube.

I did make quite a few prints with this system. However, they were all made by the seat of our pants. The prints were smooth and spotless. The speed was more than adequate

Back to reality.

The Minolta color head is a great idea. The fact that white light can be produced by individually passing light through all three filters is not new, but the fact that intensified color can be produced, is. Joe Holmes proved that.

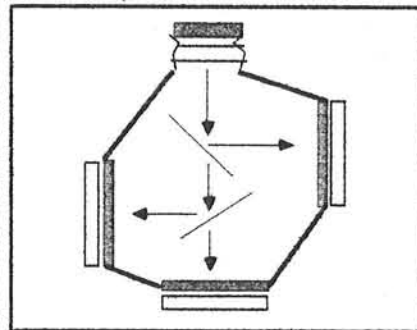
The idea of using the Minolta head to produce color separation negatives is also great. The only drawback to this outstanding device is the fact that the filters are not as sharp cutting as they should be, thereby producing a less than fully colorful Dye Transfer print.

If Minolta improved the color quality of their filters, then the light source would be ideal for making separation negatives.

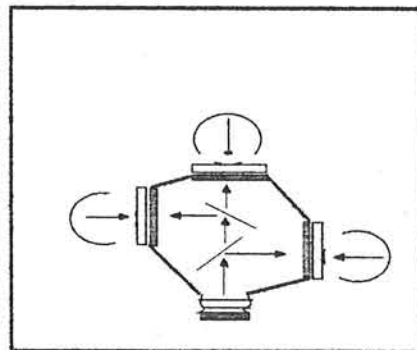
However, the system is great for making tri-color C prints or Cibachrome prints.

A few times in the past, I have shown, by making a drawing, just what a one

shot camera looks like and how it operates.



If you took the same idea but placed light sources behind each filter and passed the light through pellicels, you could produce a light source for an enlarger that could be used like the Minolta head but with much more accurate sharp cutting filters.



Each separation filter could be adjusted by rheostat and monitored on the easel with a competent easel meter.

A meter for the easel should be repeatable and have a good memory. For this kind of accuracy I would recommend the **Speed Master SM 1400**.

This extremely accurate meter has 8 memory banks and a very wide sensitivity.

The Cibachrome system

that I have been using and teaching for the past 26 years has produced a steady improvement in the overall quality of the prints.

Basically, I make sure that the contrast mask that I recommend using is made to the proper degree of contrast, made through the correct filter, or a combination of filters, and that the highlight areas are restored to their best possible detail.

The method I use means that a good **registration system is an absolute must.**

With the "isolation" masking system that I recommend, I can also increase the color saturation and separation to such a degree, that it almost looks like "abstract" color.

As you must be aware of by now, I am in the process of closing my lab in preparation for a move to Green Valley, Nevada. As a result, some of my equipment has been sold.

One item, in particular, was my Wallace Fisher easel meter. I sold it and other items in my lab so that I could make room in the van, when the moving time came.

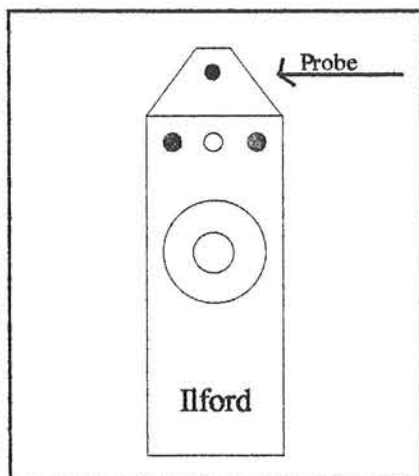
Then I made the mistake of agreeing to make 30 prints for an exhibit as part of a photographic show. I had to make 30 16x20 Cibachrome prints from

small originals.

I was able to read all of the transparencies with my old **Kodak visual densitometer** and was able to establish the proper exposure and developing times for the masks, but I didn't have my trusty Wallace Fisher meter for use on the easel. I needed to have something to establish my light level and to re-set it when ever I needed to.

The EM10

I heard about a new meter that Ilford is selling as a tool to make good prints with Cibachrome. It costs \$23. I received mine from my Ilford dealer. It is a simple meter that contains 2 red lights that indicate under or over exposure and a green light when the correct light level has been achieved.



I was pleasantly surprised. It is so accurate that I could not believe it.

I first made a decent 8x10 print Cibachrome print by trial and error.

I removed the carrier from

the enlarger, then adjusted my meter to the enlargers projected white light until the green light came on. Then I placed the image back into the carrier and raised the enlarger to a 16x20 size. I removed the carrier from the enlarger and adjusted the light level until the green light again came on. I then replaced the carrier, made the same time exposure and processed the print.

Except for size, the prints were identical. All this for \$23.

This is not a color analyzer just a simple light easel meter. It works. It is called an **EM10.**

For years I have been talking about how slow the Cibachrome paper was when compared to any other light sensitive material. I always said that the best light source for Ciba had to be very powerful.

I have recommended the Pulsed xenon made by Omega called the **Xenomega.**

This dinosaurs been extinct for many years. I had one years ago and it is now owned by my former partners at Frog Prince Labs in San Francisco.

One of my early "students" in the Cibachrome field is Keith Logan, of Calgary, Canada. I showed him a few masking tricks when he came to my San Francisco

lab. He saw the light source that I was using, and hunted for one for quite some time and eventually found the same Xenomega Light source.

Keith Logan's prints are about the finest I have ever seen. I showed him a few of the methods for masking that I was sure would improve his work. He has since gone on to higher and higher printing quality.

His photographic ability to capture birds and other animals, as well as nature, in all of it's glory is truly amazing.

His ability to make top quality Cibachrome prints is the second half of his photographic skill.

I am very proud to have been part of his photographic "education."

I recently borrowed a Xenomega source from Mark Summers, of Marks color lab in Northridge, CA.

To give you an idea of how fast this light source is;

Using a 250 watt lamp in a 4x5 condenser enlarger required an exposure from a masked 120 transparency of over 180 seconds (3 minutes). This was with a wide open 5.6 Rhodenstock apochromatic.

I then used the Xenomega light source and stopped down to $f8$ for an exposure of 25 seconds.

The light source is extremely bright and fast. It is a

1600 watt system. A fast moving column of air must be used over the lamp in order to keep from burning out the bulb and anything else in the enlarger.

Unfortunately, hand placed filters must be used with this system. I have not seen it work with a dichroic color head.

The lamp burns at 5000K and the color temperature must be lowered to 3200k by the use of an 85B filter.

I had the pleasure of making these 30 prints from images created by Chas. Bush, Ray Silverman, and Jerry Lee Smith.

I used a Cap 40 processor to process all of these prints, as well as the prints used in my Cibachrome book.

Let me tell you some of my discoveries about the Cap 40 unit.

The original "step plates" that guide the paper through the processor had to be replaced.

The original equipment step plates consisted of little spines that held the paper in the correct position so that it would allow the paper to float across the plate. Unfortunately, these little spines would sometimes catch the leading edge of the paper and the paper would jam.

The worst thing about the jam was not the loss of the sheet of paper, but the fact that the chemistry would somehow find a way to back

into the pprecedingand contaminate it. When the chemistry goes bad, you will know it. Your nose will alert you.

I requested the new replacement "step plates" that are being used in the new ICP 42 processor. They work fine. They must be placed into the space properly, otherwise they too, will be a problem. So far I have pprocessedhundreds of Ciba prints with the new plates with no tracking problems.

With either of the new Ciba processors made by illford, there has been no effort made to install a system of replenishment. In fact, the amount of prints put through the machine has to be recorded.

I discovered that prints of the same image would look alike until the last 3/4 of the run, then slowly start to look a little different.

The powder version of the P 30 p chemistry claims that as many as 8 16x20 prints can be put through the system before new chemistry must be mixed. I have found that I could only get 7 prints through the system before problems arose.

Here is what happens to the print when the chemistry is just about "shot."

The prints look great until you begin to dry it.

I usually squeegee my prints before drying in order to hasten the act.

As the last processed prints begin to dry, a grey mottle suddenly appeared across the entire print.

As you must know by now, the Ciba bleach works as a two part bleach.

The action starts with the silver bleach then after a short time, the color bleach begins to work.

This mottling indicates that the silver bleach has not done its job thoroughly, nor has the color bleach. This means that new chemistry must be mixed. It also means that the last few prints that have been contaminated will have to be thrown out and remade.

Not necessarily so. I have discovered that the black and white developer is still good, but the bleach and the fix have been somewhat exhausted.

If only I could have left the paper in the bleach and fix longer, just so that I could save these last few prints.

I found a solution.

After the prints have been drying and begin to exhibit the mottle effect, simply remove the cover from the Cap 40 processor and open the lid to the bleach tank. Take the "bad" print and re-insert it into the bleach rollers with the emulsion face down. It doesn't matter if the print is wet or dry at this point.

Make sure that the emulsion side of the print floats in

the bleach solution. Hold up the other end to keep it from getting scratched by the preceding tank parts. After the print is grabbed by the rollers it will pull the print through the bleach and fix. Wash the print again and then dry it.

The mottle will have disappeared with no ill effect on the print. This is only a "stop gap" measure. Make sure that you mix fresh solutions after this procedure.

A meeting with Mark Sommers, of Marks Color Lab, in Northridge, CA, has produced a very good analogy of the problem faced by many labs in reference to the digitizing systems now being used by many retouchers, Engravers, and some labs.

Mark feels that the labs that are rushing to buy these new systems are making a grave error. These new units are quite costly. The prices range from \$80,000. to well over \$one million for the work stations alone.

It is true that many beautiful things can be accomplished with these units, but they are still possible by using conventional systems and for a lot less money. Most labs already have the necessary equipment to produce "Photo Comps" and to make an investment that could place your company

in possible jeopardy, just isn't worth it.

Mark is making sure that his clientele is happy with the kind of printing service he is offering. He isn't threatened by the scanner invasion.

A few of our friends have gone into the digitizing scheme of operations and I am sure that the first thing on their mind is "Will we be able to make the monthly payments?"

Using a computer to do inexpensive restorations.

My wife, Mary, has been involved with Dye Transfer color printing, and retouching in general, for many years. For the past few years she has done some black and white restoration work by hand using an air brush, bleaches, dyes, and all of the known tools of the trade to accomplish her goals.

However, we recently saw an exhibit by Crosfield systems that involved retouching. It was an eye opener.

The cost of the Crosfield system was a little too much for the operation that Mary has in mind. Then we discovered a computer program called Digital Darkroom. With a simple Macintosh Plus and a scanner such as a Microtech 300 ZS she will be able to scan an image, place it on the screen, and play with it until it looks fine.

The scanner will capture 260 shades of grey and the tools that are included with the Digital Darkroom program will allow Mary to retouch the print without using a real airbrush or dyes or bleaches or any of the conventional tools of the trade, and still accomplish the kind of retouching that is necessary to accomplish the task.

The nice thing about all of this is that a darkroom isn't even necessary until the final print must be made.

Once the necessary retouching is done, the image is saved to a disc. Then all that is needed now is to get this "saved" image to a Linotype service.

This disc can be sent by mail, modem or personally delivered.

The service can then convert your image to different screen sizes and to almost any size image up to 16x20 for a very reasonable amount of money, and express mail the screened negative back to you.

This screened negative can then be printed by contact onto quality black and white photographic paper or even via a carbon process for a long lasting print, if this is an archival necessity.

The flat bed scanner costs about \$1700 and comes with two or more retouching programs to make life easier.

It is even possible to do color separations via a Mac 2 system.

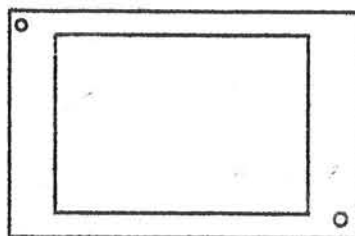
The prices for the digitizing work stations are getting lower every time a new system is introduced.

Some of the larger companies like Cytex, and Crosfield have joined forces with the computer companies.

It sometimes feels as if we were caught in the vortex of a tornado and things are happening so fast that it is hard to keep up with the events.

Some of you that are making 4x5 separation negatives by contact can do yourself a favor if you use 5x7 film and a slightly different approach to the registration devices.

Use a 5x7 punching and registration system. Mount your 4x5 originals in the center of the 5x7 sheet. This will allow you to utilize all of the image instead of losing a corner or two because of the way it was originally punched with a 4x5 system



You can now use all of the image if you so desire.

This means that you will either have to modify your carrier so that it will fit the 4x5 area properly, or you might purchase a 5x7 enlarger.

If you investigate any surplus photographic firm, such as Lens and Repro, in N.Y. City, or Industrial Photo Supply, in the Glendale area of California, you will be surprised to find that they have so much equipment available that they could probably produce a working enlarger from the spare parts.

When I was in San Francisco, my former partner had purchased a used 8x10 Salzman enlarger. These machines were built during the 30's and 40's and were considered the finest enlargers ever built.

They weighed enough to be considered as anchors for battleships.

My partner had to use 6 burly men to move it in and out of one room.

The controls were all in the front of the easel, and it worked great. The light source was one of the early types of cold light sources called a "Cooper Hewit." The prints I made with one of these machines was like making magic. The light source was even and smooth.

A good friend of mine, Mark Sommers, of Marks Color Lab, in Northridge Ca. found one in Chicago.

He is in the process of installing it in his lab to handle photo comp work. He should have much success with this gem.

The major problem that I can see for the future of professional color printing is this. Keep away from any kind of service that must cater to the advertising agency community, unless it is in the area of "comps" to show a client, or prints used to make a layout. If you get tangled up in the rat race of trying to compete with the scanners you will be in for a shock.

I receive the magazine "Photo Lab Management" for the past 10 years or so. I see the trend away from conventional photographic printing, and the explanation of how the digitizing systems are going to be the wave of the future.

This may be true. But, I feel that the art of photographic color printing will never be compromised by these machines.

The amount of soul searching and emotional strain can never be replaced by a machine.

I say this and yet, I see some of my old friends and partners joining the fray and investing all of their hard earned money into tremendously expensive machines.

The engravers will certainly have the last laugh.

I can see where any competent lithographer will install a work station and do the retouching for free, just to get the job of making the screened negatives, and somehow, keep the job under one roof.

Let us count the different areas that should not be affected by the digitizing systems.

1. Scenic Photography.
2. Quality portraiture.
3. Medical photography.
4. Point of purchase prints.
5. Prints for galleries.
6. Prints for museums.
7. Reproducing fine art work.
8. Layout prints for agencies.
9. Wedding photography.

In other words, any place where mechanical reproduction is not necessary.

This isn't even a guarantee. If the digitizers have their way, everything will be reduced to a computer.

The prints that have been made by some of my illustrious students have been an inspiration to me. I know when I look at the work of Vern Clevenger, Steve Solinsky, Galen Rowell, John Sexton, and others who labor in the darkroom with as much enthusiasm as they do out in the field, that there is plenty of work yet to be done. Have fortitude.

This last column is devoted to the trials and tribulations of the Pace family.

Mary and I have decided to move to Green Valley, Nevada. It is not too far from Las Vegas. I plan to work part time for a company called "Photo Finish."

I will have much time to myself to keep on teaching and writing.

In fact, I am initiating a new function of Bob Pace Workshops.

I will begin a **home study workshop**.

Any student who so wishes will be able to purchase the video or books needed and then have a concentrated 15 lesson follow up course. This will entail mail, fax, audio cassettes and video. I will tailor the class for each student. I will personally plan each lesson so that I will be assured that the student will thoroughly understand every phase of the work.

This announcement of this new venture of mine will hit the fan in a month or so. I still have to iron out some of the details.

In the meantime, by the middle of November, our new address and phone will be:

Bob and Mary Pace
2823 Amaryllis Court
Green Valley, NV 89014
702-896-2515

Thanks for "keeping Pace."